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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MOORTHY, ARAVIND K

ART UNIT

PAPER NUMBER

2131

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/936,157	Applicant(s) SHIBATA ET AL.	
	Examiner Aravind K. Moorthy	Art Unit 2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 17-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 17-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-12 and 17-31 are pending in the application.
2. Claims 13-16 have been cancelled.
3. Claims 1-12 and 17-31 are rejected.

Response to Amendment

4. The examiner approves the amendment made to the specification. The new title is clearly indicative of the invention to which the claims are directed.

Response to Arguments

5. Applicant's arguments with respect to claims 1-12 and 17-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 8-12, and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Candelore et al U.S. Patent No. 6,061,449 in view of Yatsukawa U.S. Patent No. 6,148,404.

As to claims 1, 11, 12, 17, 19 and 21, 22, 23, Candelore et al discloses an authentication communication system which includes (a) a storage medium having an area for storing digital information and (b) an access device for reading/writing digital information from/into the area, the authentication communication system comprising:

a first authentication phase in which the access device transmits to the storage medium scrambled access information generated by scrambling access information which shows the area [column 19, lines 36-43];

a second authentication phase in which the storage medium authenticates whether the access device is authorized [column 19 line 50 to column 20 line 41];
and

a transfer phase in which, when the storage medium and the access device have authenticated each other as authorized devices, the storage medium extracts the access information from the scrambled access information that was used in the authentication protocol, and the access device reads/writes digital information from/into the area shown by the access information [column 26 line 45 to column 27 line 32].

Candelore et al does not teach that the storage medium is authenticated by a challenge-response authentication protocol [column 3, lines 48-55].

Yatsukawa teaches the challenge-response authentication protocol and its benefits.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Candelore et al so that the storage medium would

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have been authenticated using a challenge-response authentication protocol using the scrambled access information.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Candelore et al by the teaching of Yatsukawa because The challenge-response scheme has an advantage in that even if a third person wiretaps the message, reusing the message is impossible because the challenge changes each time [column 3, lines 48-55].

As to claims 2 and 18, Candelore et al teaches an access information acquisition unit for acquiring the access information that shows the area [column 22 line 59 to column 23 line 6]. Candelore et al teaches a random number acquisition unit for acquiring a random number [column 22 line 59 to column 23 line 6]. Candelore et al teaches a generation unit for generating random number access information by combining the access information and the random number [column 22 line 59 to column 23 line 6]. Candelore et al teaches an encryption unit for encrypting the random number access information according to an encryption algorithm, to generate the scrambled access information, the storage medium includes a response value generation unit for generating a response value from the scrambled access information, and the access device includes an authentication unit for authenticating whether the storage medium is authorized using the response value [column 22 line 59 to column 23 line 6].

As to claims 3 and 20, Candelore et al teaches a decryption unit for decrypting the scrambled access information according to a decryption algorithm to obtain the random number access information. Candelore et al teaches a separation unit for separating the access

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information from the random number access information [column 26 line 45 to column 27 line 32].

As to claim 8, Candelore et al teaches that in the transfer phase, the storage medium, which stores digital information in the area, includes an encryption unit for reading the digital information from the area shown by the access information and encrypting the digital information according to an encryption algorithm to generate encrypted digital information [column 25 line 41 to column 26 line 60], and the access device, which reads the digital information from the area, includes a decryption unit for decrypting the encrypted digital information according to a decryption algorithm to obtain the digital information, the decryption algorithm being an algorithm for decrypting a cryptogram generated according to the encryption algorithm [column 25 line 41 to column 26 line 60].

As to claim 9, Candelore et al teaches a digital information acquisition unit for acquiring the digital information. Candelore et al teaches an encryption unit for encrypting the digital information according to an encryption algorithm to generate encrypted digital information [column 25 line 41 to column 26 line 60]. Candelore et al teaches that the storage medium includes a decryption unit for decrypting the encrypted digital information according to a decryption algorithm to obtain the digital information [column 25 line 41 to column 26 line 60]. Candelore et al teaches writing the digital information into the area shown by the access information. Candelore et al teaches the decryption algorithm being an algorithm for decrypting a cryptogram generated according to the encryption algorithm [column 25 line 41 to column 26 line 60].

As to claim 10, Candelore et al teaches a digital information acquisition unit for acquiring the digital information, as discussed above. Candelore et al teaches a content key acquisition unit for acquiring a content key [column 30, lines 1-64]. Candelore et al teaches a first encryption unit for encrypting the acquired content key according to a first encryption algorithm to generate an encrypted content key [column 30, lines 1-64]. Candelore et al teaches a second encryption unit for encrypting the encrypted content key according to a second encryption algorithm to generate a double- encrypted content key [column 30, lines 1-64]. Candelore et al teaches and a third encryption unit for encrypting the digital information according to a second encryption algorithm using the content key, to generate encrypted digital information [column 30, lines 1-64]. Candelore et al teaches that the storage medium includes a decryption unit for decrypting the double encrypted content key according to a first decryption algorithm to obtain the encrypted content key, and writing the encrypted content key into the area shown by the access information, and the storage medium further includes an area for storing the encrypted digital information [column 30, lines 1-64].

7. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Candelore et al U.S. Patent No. 6,061,449 and Yatsukawa U.S. Patent No. 6,148,404 as applied to claim 1 above, and further in view of Vobach U.S. Patent No. 5,193,115.

As to claim 4, the Candelore-Yatsukawa combination does not teach that in the first authentication phase, the access device further includes a random number seed storage unit for storing a random number seed, and the random number acquisition unit acquires the random number by reading the random number seed from the random number seed storage unit.

Vobach teaches a random number seed storage unit for storing a random number seed, and the random number acquisition unit acquires the random number by reading the random number seed from the random number seed storage unit [column 9, lines 21-39].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Candelore-Yatsukawa combination so that the random number are created with a random number seed that is stored in a storage unit. The random numbers would have been acquired from the storage unit.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Candelore-Yatsukawa combination by the teaching of Vobach because the masking tape string only appears to an eavesdropper as a summand of the known ciphertext string, reconstructing it depends upon knowing the plaintext message string. Since, for a given encrypted message, there will be many equally probably possible plaintext message strings, there will be as many equally probable possible masking tape strings. In short, the plaintext message string "masks" the masking tape string [column 6 line 64 to column 7 line 8].

As to claim 5, the combination of the Candelore-Yatsukawa combination and Vobach teaches that in the first authentication phase, the access device further writes the scrambled access information over the random number seed stored in the random number seed storage unit, as a new random number seed [Vobach column 9, lines 40-63].

As to claim 6, the combination of the Candelore-Yatsukawa combination and Vobach teaches that in the first authentication phase, the access device further includes a random number seed storage unit for storing a random number seed, and the random number acquisition unit

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acquires the random number, by reading the random number seed from the random number seed storage unit and generating the random number based on the random number seed [Vobach column 9, lines 21-63].

As to claim 7, the combination of the Candelore-Yatsukawa combination and Vobach teaches that in the first authentication phase, the access device further writes the random number over the random number seed stored in the random number seed storage unit as a new random number seed, as discussed above.

8. Claims 24-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Candelore et al U.S. Patent No. 6,061,449 and Yatsukawa U.S. Patent No. 6,148,404 as applied to claims 1, 11, 12, 17, 19 and 21-23 above, and further in view of Mann U.S. Patent No. 6,374,399 B1.

As to claims 24-31, the Candelore-Yatsukawa combination teaches that access information comprises address information, as discussed above.

The Candelore-Yatsukawa combination does not teach that access information comprises data size information.

Mann teaches access information that comprises data size information [column 11, lines 22-26].

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Candelore-Yatsukawa combination so that the access information would have included address information as well as data size information.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the Candelore-Yatsukawa combination by the teaching of

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Mann because it lets the target device know how much space to a lot for the data during the write function [column 1, lines 51-67].

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aravind K Moorthy whose telephone number is 571-272-3793. The examiner can normally be reached on Monday-Friday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aravind K Moorthy *AM*
January 24, 2006

CEL
Primary Examiner
AV 2131
1/25/06